

## **ABSTRACT**

Disclosed is a method for controlling an air fuel ratio in a gas furnace which can maintain an optimum performance in combustion irrespective of variation in temperature control stages. The method for controlling the air fuel ratio in the gas furnace which drives a fan motor according to a specified pulse signal, measures each cycle time of the pulse signals generated during revolution of the fan motor, detects an RPM (Revolution Per Minute) of the fan motor according to the measured cycle time, and controls opening of a gas valve based on an average voltage of a PWM signal applied from a controller, the method comprising the steps of detecting data of variation in calorific value according to variation in a PWM signal count value, and data of variation in air quantity according to variation in the fan motor RPM, detecting data of variation in the PWM signal count value for controlling the gas valve according to the variation of the fan motor RPM by using the calorific value variation data and the air quantity variation data, and deriving a relational expression between the fan motor RPM and the PWM count value by using the PWM signal count value variation data, and applying the detected RPM to the relational expression until a calorific value reaches a level preset in a temperature control mode selected by a user at a time of performing a burning operation of the gas furnace, and accordingly controlling the gas valve with the PWM count

value. The present invention, therefore, has an advantage of always maintaining the optimum performance in combustion regardless of the temperature variation, since a transient phenomenon caused during the burning operation is prevented.

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